



Paul E. Helliker
Director

Department of Pesticide Regulation



Gray Davis
Governor
Winston H. Hickox
Secretary, California
Environmental
Protection Agency

MEMORANDUM

TO: Sue Edmiston, Agricultural Program Supervisor III
Worker Health and Safety Branch **HSM-02023**

FROM: Michel L. Smith, Environmental Research Scientist **[original signed by M. Smith]**
Worker Health and Safety Branch

DATE: July 24, 2002

SUBJECT: PROJECT 0204, INVESTIGATION OF TULARE COUNTY GRAPE
HARVESTERS INCIDENT AT GIUMARRA VINEYARDS

Incident Chronology

On June 4, 2002, at 7:00 AM, approximately 104 fieldworkers employed by Giumarra Vineyards Corporation reported for work at Ranch 19 North, Block 4, to thin grape bunches. Prior to entering the vineyard, the workers complained of a bad odor and refused to enter. The foreman noticed that the leaves were still wet and ordered the crew to wait outside the vineyard for 3 hours until the leaves had dried. By then, some of the workers began to experience symptoms of nausea and headaches. One worker, who was pregnant, reportedly vomited. Before the three hours had expired, approximately 20 fieldworkers, tired of waiting and some still feeling ill, left the premises, including the pregnant fieldworker. One of these fieldworkers contacted the United Farm Workers Union (UFW) and informed them of the possible exposure incident. Subsequently, the UFW contacted the Fresno Bee. According to the UFW, none of the workers who left the vineyards early that day sought medical treatment. The crew foreman later confirmed this fact when all of the workers reported to work on June 5.

Worker Health & Safety (WH&S) scientists were first made aware of the incident through Central Regional Office's Megan Bloodworth, while jointly conducting an investigation in Monterey County of a drift episode on the evening of June 4. WH&S staff informed WH&S supervisor, Sue Edmiston that same evening and were instructed by her to go to Tulare County to gather information, collect dislodgeable foliar residue (DFR) samples if necessary and provide assistance to the Tulare CAC office in the investigation of the potential priority episode. The Tulare County Agricultural Commissioner's Office (CAC) was presently aware and investigating the incident when WH&S staff arrived at the incident site on June 5, 2002.

On-site Investigation

The incident occurred at a vineyard located near the northwest corner of Avenue 72 and Road 224, in Tulare County (see attached map). Approximately 104 field workers had been assigned to work in block 4 of the vineyard that day when they began work on June 4 at 7:00 A.M. Blocks 3 and 4, consisting of approximately 40 acres each, had been treated 4 hours prior with Dipel DF (active ingredient (a.i.), bacillus thuringiensis) applied at a rate of 0.5 lbs/acre, Abound (22.9% a.i., azoxystrobin) applied at a rate of 11 oz/acre, ProGibb 40% (a.i., gibberellic acid) applied at a rate of 8.45 g/acre and Liquid Acadian Seaweed, a fertilizer applied at a rate of 4.5 oz/acre. All



of the pesticides had a restricted entry interval (REI) of 4 hours. According to the crew foreman, the application started around 12:00 AM and was completed by 3:00 AM. A review of the pesticide use report confirmed the completion time (see attached).

At 7:00 AM, the crew foreman began making work assignments, first dividing the workers into two crews. His plans were to start the two crews working at opposite ends of the field and have them work inwards. However, prior to entering the field, the workers complained of an odor and some began to feel ill. The foreman noticed the leaves were still damp, more so on the south end because the application had ended there. He told both crews to wait 3 hours until the leaves dried before entering the field, which would be around 10:00 AM. The crew foreman said that some of the workers who had been assigned to work the south end of the vineyard, including a pregnant woman, left the area because they were tired of waiting or were still feeling ill. At approximately 10:00 AM, the foreman made new assignments and instructed the remaining workers to start from the north end and middle of the vineyard where it was fairly dry. At that point, the crew foreman finally permitted the workers to enter the vineyard. The crews worked until 4:30 PM on June 4 and no one complained of any odors or symptoms according to the crew foreman. The workers worked in rows 1-100 that day.

Sampling

On June 5, WH&S staff collected DFR samples from rows in the vineyard where the fieldworkers had reportedly worked at the time of the incident. The samples were submitted to the CDFA laboratory on the morning of June 6. A residue analysis for the known pesticide applications as well as a general screening was requested. Bt residues were not evaluated because the laboratory does not conduct analyses of microbiologicals. Gibberellic acid was not evaluated because its high solubility in water yields extremely low recoveries. As a result, the lab conducted an analysis only for azoxystrobin. The DFR samples and results are presented in Table 1.

Interviews

Since no one sought medical treatment, WH&S staff did not feel it necessary to interview any of the fieldworkers. With the assistance of Tulare CAC staff John Moreno, WH&S staff interviewed the crew foreman to verify information concerning worker activities and field entry times.

Crew Foreman

The crew foreman coordinates the activities of the crews and was on location at the time of incident. He provided the details of the incident for us in English. He told us that the crew had refused to enter because of the odor. He said he noticed the leaves were still wet and decided to have them wait for approximately 3 hours until the leaves dried before he would allow them to enter the vineyard. During that time, approximately 20 workers left. He stated that when he gave approval for the remaining workers to enter the vineyard at approximately 10 AM, no one

complained of any odors or reported any symptoms. He also stated that on the following morning, June 6, when all of the workers returned, including the ones that had left early, no one reported any symptoms or informed him about having sought medical attention.

Summary and Violations

Investigation of the odor complaint at Giumarra Vineyards by the Tulare County Agricultural Commissioners Office in co-operation with WH&S Branch revealed that the REI's for the pesticides applied to Blocks 3 & 4 had expired prior to the workers entering the vineyard. No violations were found.

Project Documentation

Samples from Giumarra Vineyards (application site) were collected in Block 3, where the workers were assigned to work, between rows 10 and 100. Chain of custody records indicate the diameter of punch used to collect samples and the number of leaf discs collected per sample.

Project documentation, sample collection, sample labeling, handling and transport, chain of custody, and data analyses were conducted in accordance with all applicable policies, including HS-1600, Guidance for Determination of Dislodgeable Foliar Residue (2002) and the following WH&S SOPs: WHS-AD04, WHS-AR02, WHS-EQ15, WHS-FO03, WHS-FO04, WHS-FO05, WHS-FO07 and WHS-FO08. Copies of the Access[®] database and of the forms, maps and photos collected during the investigation will be archived as raw data.

Table 1. Dislodgeable Foliar Residue (DFR) results for azoxystrobin residues ($\mu\text{g}/\text{cm}^2$) on grapes at Giumarra Vineyards collected June 5, 2002 in Tulare County.

WH&S Sample #	Rows Sampled	Results ($\mu\text{g}/\text{cm}^2$)
TU02-0001	10, 11	0.15
TU02-0002	23, 24	0.18
TU02-0003	32, 33	0.22
TU02-0004	41, 42	0.05
TU02-0005	53, 54	0.10
TU02-0006	64, 65	0.05
TU02-0007	70, 71	0.05
TU02-0008	79, 80	0.11
TU02-0009	85, 86	0.12
TU02-0010	90, 91	0.13
TU02-0011	95, 96	0.10
TU02-0012	99, 100	0.10

Mean = 0.11

Standard Deviation = 0.05

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Attachments

- Crop Map showing the location of Ranch 19 North, Block 4.
- Pesticide Use Report submitted by Giumarra Vineyards for pesticide applications made to vineyards in blocks 3 and 4 on June 4, 2002.

cc C. Andrews

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PESTICIDE USE REPORT

MONTH 6/4		YEAR 02		SUBMITTED BY: J-S				
SITE IDENTIFICATION NUMBER R-19" GR			TOTAL PLANTED ACREAGE 318					
COMMODITY CROP/SITE Grapes			FIELD LOCATION: R-19" RUC-3-4					
DATE/TIME APPLICATION COMPLETED	ACREAGE/UNITS TREATED	HOW APPLIED (CHECK)	REGISTRATION FROM LABEL	TOTAL FORMULATED PRODUCT USED Circle One Unit of Measure	DAYS REENTRY	RATE PER ACRE	DILUTION VOLUME	PRODUCT & MANUFACTURE
VARIETY 3	BLOCKS 34	GROUND	73049-39	37 LB OZ PT QT GA	4 hrs.	5.5	225	100-Dipel
DATE/TIME 6/4 as 00	ACRES 74			LB OZ PT QT GA				OS
VARIETY	BLOCKS	GROUND	10182-415-2A	814 LB OZ PT QT GA	4 hrs.	11"	225	346-Abound
DATE/TIME	ACRES			LB OZ PT QT GA				346
VARIETY	BLOCKS	GROUND		333 LB OZ PT QT GA		4.5"	225	69-B1956
DATE/TIME	ACRES			LB OZ PT QT GA				4
VARIETY	BLOCKS	GROUND	73049-1-AA	608 LB OZ PT QT GA	4 hrs.	8-48"	225	417-P.6-40%
DATE/TIME	ACRES			LB OZ PT QT GA				SS
VARIETY	BLOCKS	GROUND		LB OZ PT QT GA				
DATE/TIME	ACRES			LB OZ PT QT GA				
VARIETY	BLOCKS	GROUND		LB OZ PT QT GA				
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DATE/TIME	ACRES			LB OZ PT QT GA				
VARIETY	BLOCKS	GROUND		LB OZ PT QT GA				
DATE/TIME	ACRES			LB OZ PT QT GA				

CROP MAP - 2001

Map Number:

19NT

Grower Name: Giumarra Vineyards & Farms

LOCATION: Sec: 17 Twn: 23S Rng: 27E

Acres: 318

CROP: Grapes 170 Acres / Open 148 Acres

Field Number: RANCH # 19NT - Grapes

